

Christine Johnson

c8johnson@ucsd.edu CSB 250 Office hours: Tues 12-1

Required and recommended readings available on class website:

[www.cogsci.ucsd.edu/~johnson/COGS260](http://www.cogsci.ucsd.edu/~johnson/COGS260)

**REQUIREMENTS:** Read and discuss (Week 2-10) all Required readings (Recommended readings optional)

Each student will facilitate one or more discussions (Scheduled at Orientation meeting)

Final paper, 10+ pages, on Imitation; Must include info from at least 5 of the perspectives covered

Paper due Monday, December 5. Email to Dr. Johnson

**Week 1 - Orientation**

- Review goals & requirements of class, details of syllabus; Schedule facilitators
- Dr. Johnson will present current research on imitation (Recommended readings only – no discussion)

*Recommended:*

- Johnson 2015 The cognitive ecology of dolphin social engagement. In Herzing & Johnson (Eds) *Dolphin Communication and Cognition* 229-256
- Tayler & Saayman 1973. Imitative behavior by Indian Ocean bottlenose dolphins (*Tursiops aduncus*) in captivity. *Behaviour, XLVI*: 286-298
- Kuczaj & Yeater 2006 Dolphin imitation: Who, what, when and why? *Aquatic Mammals* 32:413-422

**Week 2 – Comparative Perspectives**

*- Required:*

- Zentall 2012. Perspectives on observational learning in animals. *Journal of Comparative Psychology*, 126:114-128
- Whiten et al. 2004. How do apes ape? *Learning and Behavior*, 32:36-52
- Byrne 2003 Imitation as behavior parsing. *Phil Trans Royal Society B* 358: 529-536
- Pepperberg 2005 Insights into vocal imitation in African Grey parrots. In Hurley & Chater (Eds) *Perspectives on Imitation, Vol 1*: 244-262

*Recommended:*

- Bard & Russell 1999. Evolutionary foundations of imitation. In Nadel & Butterworth *Imitation in Infancy*
- Myowa-Yamakoshi & Matsuzawa 2003. Factors influencing imitation of manipulatory actions in chimpanzees *Journal of Comparative Psychology*, 113:128-136
- Whiten & Ham 1992. On the nature and evolution of imitation in the animal kingdom: reappraisal of a century of research. *Adv. Study Behav.* 11, 239–283
- Johnson 1993. Animal communication via coordinated cognitive systems. *Perspectives in Ethology: Vol 10*
- Russon & Galdikas 1995. Constraints on great ape imitation. *Journal of Comparative Psychology*, 109: 5-17.

**Week 3 – Neurological Correlates**

*- Required:*

- Rizzolatti 2005. The mirror neuron system and imitation. In Hurley & Chater, *Perspectives on Imitation, Vol 1*: 55-76.
- Decety 2006. A cognitive neuroscience view of imitation. In Rogers & Williams *Imitation & the Social Mind* 251-275
- Simpson, Paukner, Suomi & Ferrari 2015. Neonatal imitation and its sensorimotor mechanism. In Ferrari & Rizzolatti, *New Frontiers in Mirror Neurons Research*, 1-31

*Recommended:*

- Decety & Chaminade 2005 The neurophysiology of imitation and inter-subjectivity. In Hurley & Chater *Perspectives on Imitation, Vol 1*: 119-140.
- Filippi & Woodward 2015 Mirroring and the ontogeny of social cognition In Ferrari & Rizzolatti, *New Frontiers in Mirror Neurons Research*, 1-25
- Gallese 2005 “Being like me”: Self-other identity, mirror neurons & empathy . In Hurley & Chater, *Perspectives on Imitation Vol 1*: 101-118

## **Week 4 – Development I: Imitation in Infancy**

### **- Required:**

- Meltzoff 2002. Imitation as a mechanism of social cognition In Goswami (Ed) *Blackwell Handbook of Childhood Cognitive Development*, 6-25
- Jones 2009. The development of imitation in infancy. *Phil Trans Royal Society B* 364: 2325-2335
- Ray & Heyes 2010. Imitation in infancy: The wealth of the stimulus. *Developmental Science* 14:92-105
- Over & Carpenter 2011. Putting the social into social learning: Explaining both selectivity and fidelity in children's copying behavior. *Journal of Comparative Psychology* 126: 182-192

### **- Recommended:**

- Kugiumutzakis 1999. Genesis and development of early infant mimesis to facial and vocal models. In Nadel & Butterworth *Imitation in infancy*: 36-59.
- Charman 2006. Imitation in the development of language. In Rogers & Williams *Imitation and the Social Mind*, 96-117
- Rogers & Williams 2006. Imitation in autism. In Rogers & Williams (Eds) *Imitation and the Social Mind*, 277-309
- de Barbaro, Johnson & Deak 2013. Twelve-month "social revolution" emerges from mother-infant sensori-motor coordination. *Human Development*, 56: 223-248.

## **Week 5 – Development II: Imitation in Apprenticeship**

### **- Required:**

- Dennen 2004. Cognitive apprenticeship in educational practice: Research on scaffolding, modeling, mentoring and coaching as instructional strategies, In D.H. Jonassen (Ed). *Handbook of Research on Educational Communications and Technology*, 2nd ed., (pp. 813-828). Mahwah, NJ, US: Lawrence Erlbaum 813-828
- Gergly & Csibra, 2005. The social construction of the cultural mind: Imitation learning as a mechanism of human pedagogy. *Interaction Studies*, 6: 463-481.
- Nicolescu & Mataric 2005. Task learning through imitation & human-robot interaction In K. Dautenhahn & C. Nehaniv (Eds) *Models & mechanisms of imitation and social learning in robots, humans and animals* 1-18

### **- Recommended:**

- Fagard, Esseily & Nadel 2006. Learning through practice versus learning by observation in infants

## **Week 6 – Imitation in Robots**

### **- Required:**

- Breazeal et al, 2005. Learning from and about others: Towards using imitation to bootstrap the social understanding of others by robots. *Artificial Life*, 11: 31-62
- Marriott Parker & Denzinger 2009. Imitation as a mechanism of cultural transmission *Artificial Life*, 16:21-37
- Chersi 2012. Learning through imitation: A biological approach to robotics. *IEEE Trans* 4:204-214

### **- Recommended:**

- Rao, Shon & Meltzoff 2004. A Bayesian model of imitation in infants and robots. In Dautenhahn & Nehaniv *UAI: Imitation and Social Learning in Robots*, 1-18
- Montesano et al. 2007. Affordances, development and imitation
- Erbas, Bull & Winfield, 2015. On the evolution of behaviors thru embodied imitation. *Artificial Life*, 21: 141-165

## **Week 7 – The Evolution of Mimesis**

### **- Required:**

- Donald 1993. *Precis of "Origins of the modern mind: 3 stages in the evol of culture & cognition"*. *BBS*, 16:737-748.
- Arbib, M.A. 2013. Evolving a bridge from praxis to language. In C. Lefebvre, B. Comrie & H. Cohen (Eds.) *New perspectives on the origins of language*. Amsterdam: John Benjamins
- Perniss & Vigliocco 2016. The bridge of iconicity: from a world of experience to the experience of language. *Phil Trans Royal Society B* 369: 1-13

### **- Recommended:**

- Arbib, M. 2005. From monkey-like action recognition to human language *BBS*, 28:105-167.
- Zlatev, Persson and Gardenfors, 2005, Bodily mimesis as the "missing link" in human cognitive evolution. *Lund University Cognitive Science*, 121: 1-40.
- Zlatev, J. 2014. Bodily mimesis and the transition to speech. In O. Pombo and N. Gontier *The evolution of social communication in primates: A multidisciplinary approach* Berline: Springer. 1-16.
- Hutchins & Johnson 2009. Modeling the emergence of language as an embodied collective cognitive activity. *Topics in Cognitive Science*, 1: 523-546.

## **Week 8 – Imitation and Prosociality**

### - Required:

- Chartrand & Bargh, 1999. The chameleon effect: The perception-behavior link and social interaction, *Journal of Personality and Social Psychology*, 76, pp. 893-910.
- Van Baaren, Holland, Kawakami & Van Knippenberg, 2004. Mimicry and prosocial behavior. *Psychological Science*, 15: 71-74.
- Lakin, J. L., Chartrand, T. L., & Arkin, R. M. 2008. I am too just like you: Nonconscious mimicry as an automatic behavioral response to social exclusion. *Psychological Science*, 19(8), 816–822.
- Gueguen, Jacob & Martin 2009. Mimicry in social interaction: Its effect on human judgement and behavior. *European Journal of Social Sciences*, 8:253-259
- Carpenter, Uebel & Tomasello, 2013. Being mimicked increases prosocial behavior in 18-month-old infants. *Child Development*, 84(5), 1511-1518.
- Paukner, A., Suomi, S. J., Visalberghi, E. & Ferrari, P. F. 2009. Capuchin monkeys display affiliation toward humans who imitate them. *Science*, 325: 880-883
- Nielsen, Collier-Baker, Davis & Suddendorf, 2005. Imitation recognition in a captive chimpanzee (*Pan troglodytes*). *Animal Cognition*, 8: 31-36

### - Recommended:

- Forgas 2001. Affect and the social mind. In Forgas, Williams & Wheeler *The Social Mind*
- Lakin, J.L. and Chartrand, T.L. 2003. Using nonconscious behavioral mimicry to create affiliation and rapport. *Psychological Science*, 14:334-339.
- Paukner, A., Anderson, J. R., Borelli, E., Visalberghi, E. & Ferrari, P. F. 2005. Macaques (*Macaca nemestrina*) recognize when they are being imitated. *Biological Letters*, 1: 219-222.
- Haun & Call, 2008. Imitation recognition in great apes. *Current Biology*, 18: R288-R290.
- Call, J. & Carpenter, M. 2009. Monkeys like mimics. *Science*. 325, 824-825.

## **Week 9** Thanksgiving - No Class

## **Week 10 – Imitation in Semiotic Discourse**

### - Required:

- Clark 2016. Depicting as a method of communication. *Psychological Review* 123: 324-347.
- Stec, Huiskes & Redeker 2015. Multimodal analysis of quotation in oral narratives. *Open Linguistics*, 1: 531-554.
- Lempert 2014. Imitation. *Annual Review of Anthropology*, 43: 379-395.

### - Recommended:

- Nadel et al 1999. The evolving nature of imitation as a format for communication. In Nadel & Butterworth (Eds) *Imitation in Infancy*: 209-234.
- Trevarthen, Kokkinaki & Fiamenghi 1999. What infants' imitations communicate. In Nadel & Butterworth (Eds) *Imitation in Infancy*: 127-185.
- Gibbs 2000 Meta-representations in staged communicative acts. In Sperber (Ed) *Metarepresentation: A Multi-Disciplinary Perspective*, 1-19.

## **Final Week - Group's Choice**

- Entrainment, Music, Dance?
- Culture and Conformity?
- Imitation in Autism?
- Other?
- None?